



The Finnish Register of Visual Impairment Annual Statistics 2020

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What is the Finnish Register of Visual Impairment?

The purpose of the Finnish Register of Visual Impairment is to study the incidence of visual impairment in Finland. The Register serves as a basis for preventive measures and treatment of visual impairment, as well as for planning of rehabilitation and other special services for persons with visual impairment. In addition, the Register provides research material on ophthalmological diseases and visual impairment. It also aims to promote and support research in the field.

The Register is maintained by the Finnish Federation of The Visually Impaired and is subject to the National Institute for Health and Welfare (THL). The National Board of Health established the Register in 1983. The operation of the Register is regulated by the Act (552/2019) on secondary use of social and health data. Health care authorities, institutions and personnel are, under the above-mentioned Act, responsible to forward to the Register such information on persons with visual impairment as is specified in the Decree.

Notification of visual impairment

Notification must be made by a specialist in ophthalmology or the ophthalmological unit of a hospital. Notification must be made if the corrected visual acuity is permanently less than 0.3 in the better eye of the patient, or if the person must for some other reason be considered comparable with a person with permanent visual impairment as described above.

Data on the Register

A notification form is used to compile personal data of persons with visual impairment and to record information on the nature (diagnoses), severity (visual acuity and visual field) and aetiology of the impairment, on multiple impairments and on the patient's visual ability in relation to reading and moving about. In connection with the updating of records, the Central Population Records provide information on the mother tongue, marital status and possible date of death of persons with visual impairment. The Central Statistical Office reports the cause of death.

Information compiled in the Finnish Register of Visual Impairment is confidential. Information concerning an individual with a visual impairment is not released to an outsider without the approval of the National Research and Development Centre for Welfare and Health.

Maintenance of the Register

A central goal of the Register is to compile as comprehensive as possible a data base on visual impairment in order to serve those interested. Special statistics are drawn up on the basis of records compiled in the Register. Central statistics illustrating the profile of visual impairment can be found in the statistical section of the annual report released by the Register.

Promotion of research on visual impairment

The Register promotes research on visual impairment by providing special statistics based on its records, and bibliographical references to researchers and students. In addition, the Register surveys study subjects related to visual impairment, maintains contacts with researchers in the field, takes part in joint research projects and international activities, and organizes research seminars.

Administration, personnel and contact addresses

The Register operates on the premises of the Finnish Federation of the Visually Impaired in Helsinki. Register staff:

Hannu Uusitalo MD, PhD, Professor of Ophthalmol. Chief Medical Officer -> 30.9.2021 hannu.uusitalo@tuni.fi	Matti Ojamo M.Soc.Sc. Research Director -> 1.10.2021 -> matti.ojamo@nkl.fi	Laura Tolkkinen M.Soc.Sc Research Director -> 1.10.2021 -> laura.tolkkinen@nkl.fi
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Annual Statistics 2020

The register has gathered information about the visually handicapped for 37 years (1.1.1983-). It is estimated that there are 50,000 - 60,000 visually impaired people in Finland (the population is 5,5 millions). The register contains information on 60 321 v.i. persons, of whom 17 922 were alive (31.12.2020). 1,800 - 2,000 new registrations are made annually. New entries received in the past few years have not changed the profile of visual impairment formed on the basis of the register. It can be assumed that the register contains a representative sample of those v.i.'s who have been using ophthalmological health care services in Finland since the year 1983.

Our register is not complete, we are on sample basis. Therefore the main distributions describing the registered persons are presented in the following tables as relative frequencies (%-distributions).

Table 1. Gender

Registered visual impairment in Finland
in 2020 (total and new registrations)

	Total %	New 2020 %
Female	60.0	64.8
Male	40.0	35.2
Total	100.0	100.0
N	17 922	1458

Table 2. Age groups

Registered visual impairment in Finland
in 2020 (total and new registrations)

Age	Total %	New 2020 %
0 – 14	2.7	3.2
15 – 24	3.8	1.0
25 – 34	4.9	1.4
35 – 44	5.0	1.1
45 – 54	6.0	2.1
55 – 64	8.2	2.5
65 – 74	12.4	11.2
75 – 84	20.2	29.1
85 +	37.0	48.4
Total	100.0	100.0
N	17 922	1 458
0 - 17	3.7	3.6
18 - 39	10.1	2.7
40 - 64	16.7	4.9
65 - 84	32.6	40.4
85 +	37.0	48.4
Mean age	79	84

Figure 1. Age groups

New registrants in Finland in 2020 (N = 1 458)

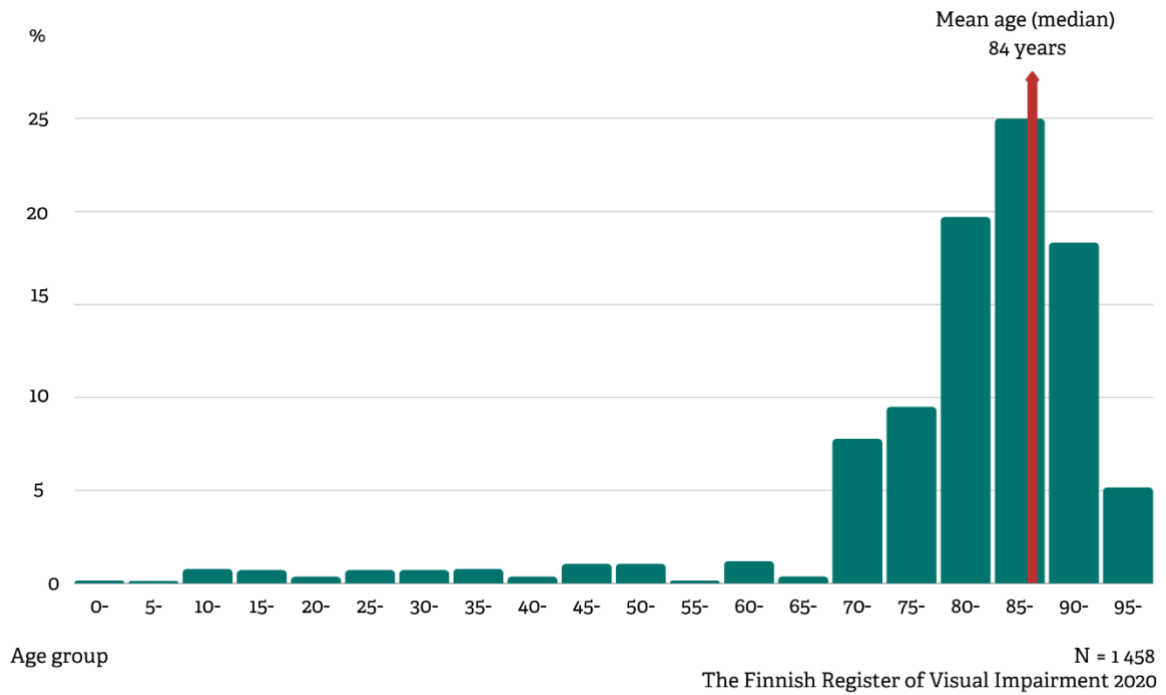


Figure 2. Age and gender

New registrants in Finland in 2020 (N = 1 458)

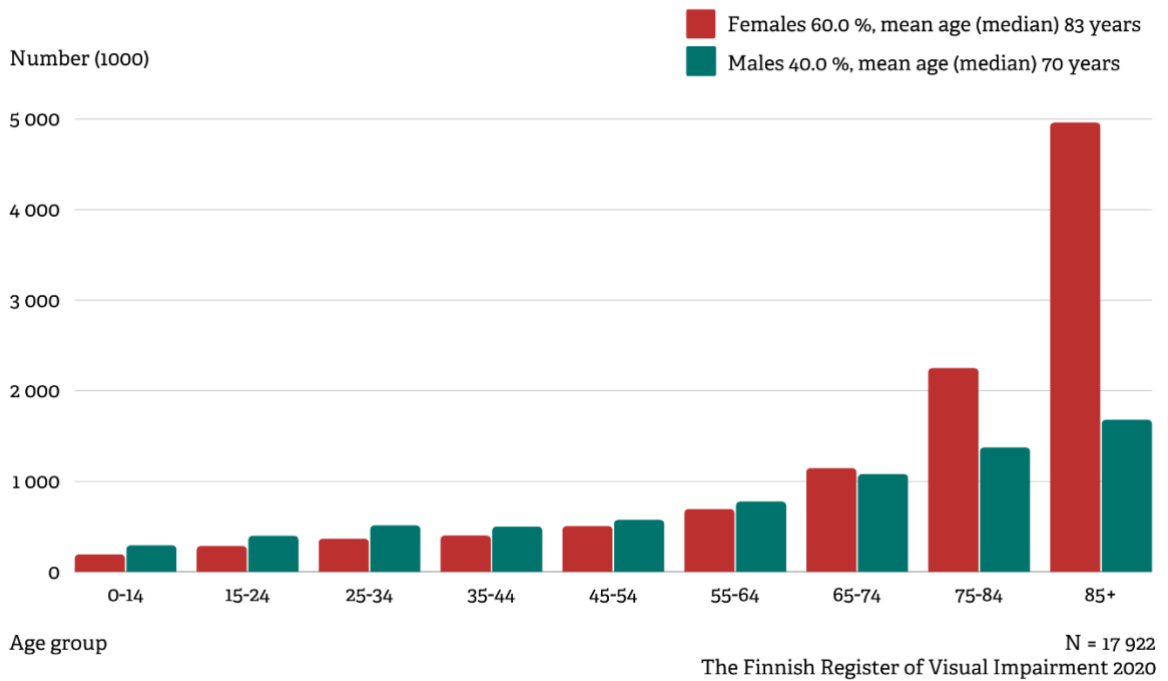


Table 3. Principal diagnoses of Visual Impairment by age groups

Registered visual impairment in Finland in 2020, total distribution and new registrations

	Total %	New 2020 %
A. AGE GROUP 0 - 17 YEARS		
Disorders of optic nerve and visual pathways	29.8	19.2
- cortical blindness	17.0	9.6
Congenital anomalies of eye	22.2	13.5
Hereditary retinal dystrophies	11.4	17.3
Amblyopia NUD	8.5	11.5
Albinism	5.5	1.9
Nystagmus	5.3	7.7
ROP, retinopathy of prematurity	3.3	3.8
Disorders of refraction and accommodation	3.5	3.8
Amaurosis NUD	2.1	1.9
Other diagnoses	8.4	19.4
0 - 17 years total (total N = 657, new cases N = 52)	100.0	100.0
B. AGE GROUP 18 - 64 YEARS		
Hereditary retinal dystrophies	20.9	19.9
Disorders of optic nerve and visual pathways	20.4	9.9
- optic atrophy	10.7	3.5
Congenital anomalies of eye	14.4	2.1
Amblyopia NUD	2.6	4.3
Diabetic retinopathy	6.3	4.3
Visual field defects, other vis. disturbances (excl amblyopia)	3.6	4.3
ROP, retinopathy of prematurity	3.5	0.0
Glaucoma	3.1	10.6
High myopia (myopia maligna)	7.7	1.4
Disorders of choroid	2.7	4.3
Nystagmus (Irregular eye movement)	2.3	1.4
Amaurosis NUD	1.8	0.0

Disorders of cornea	1.8	4.3
Other diagnoses	8.9	33.2
18 - 64 years total (total N = 4 793, new cases N = 141)	100.0	100.0

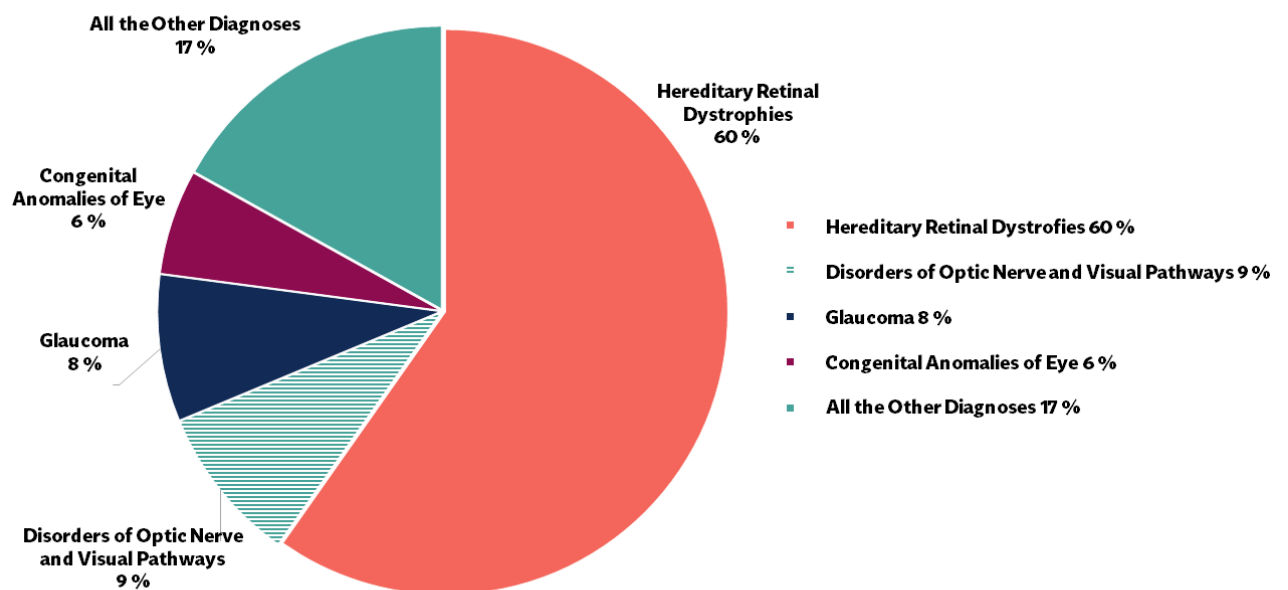
C. AGE GROUP 65+ YEARS

	Total %	New 2020 %
AMD, Age-related macular degeneration	57.7	70.1
Glaucoma	10.9	14.6
Hereditary retinal dystrophies	6.1	0.8
Disorders of optic nerve and visual pathways	3.6	1.2
Diabetic retinopathy	3.0	1.5
Amblyopia NUD	2.7	0.3
Disorders of cornea	2.5	2.0
Retinal hole	1.7	0.5
High myopia (myopia maligna)	1.5	0.5
Retinal vascular occlusion	1.4	2.9
Other diagnoses	8.9	5.6
65+ years total (total N = 12 472, new cases N = 1 295)	100.0	100.0

Coding manual for Medical Eye Services, 1980, Based on ICD-9

Figure 3 Principal Diagnoses of Visual Impairment

Registered visual impairment in Finland in 2020 (N = 17 922)



N = 17 922
The Finnish Register of Visual Impairment 2020

Table 4. Multiple Impairment and diabetes

Registered visual impairment in Finland in 2020
(total and new registrations)

	Total %	New 2020 %
Diabetes	8.8	11.3
Hearing	5.6	6.1
Learning disabilities	4.7	1.2
Mobility	4.3	3.1
CP, Cerebral Palsy	2.3	0.4
N	17 922	1 458

Table 5. Age at onset of Visual Impairment

Registered visual impairment in Finland in 2020
(total and new registrations)

	Total %	New 2020 %
0	10.0	1.4
1 – 17	5.1	1.6
18 – 39	7.0	1.2
40 – 64	9.8	2.6
65+	34.2	45.1
Unknown/not reported	33.9	48.1
Total	100.0	100.0
N	17 922	1 458

Table 6. Categories of Visual Impairment by WHO's definition

Registered visual impairment in Finland in 2020 (N = 17 922)

	Visual acuity	Visual field (°)	Total %	New 2020 %
1 Moderate low vision	less than 0.3 → ≥ 0.1		59.3	66.5
2 Severe low vision	less than 0.1 → ≥ 0.05		11.0	8.1
low vision, not specif			3.1	0.4
Low vision total	less than 0.3 → ≥ 0.05		73.5	75.0
3 Profound low vision	less than 0.05 → ≥ 0.02	less than 20°	10.5	8.8
4 Near-total blindness	less than 0.02 → 1/∞	less than 10°	8.8	5.1
5 Total blindness	0		2.2	0.1
blindness not specified			0.4	0.0
Blindness total	less than 0.05	less than 20°	21.8	14.1
9 Unknown (Other)			4.7	10.9
Total			100.0	100.0
N			18 176	1 616

Figure 4 Categories of Visual Impairment by WHO’s Definition with Finnish Modification

Registered visual impairment in Finland in 2020 (N = 17 922)

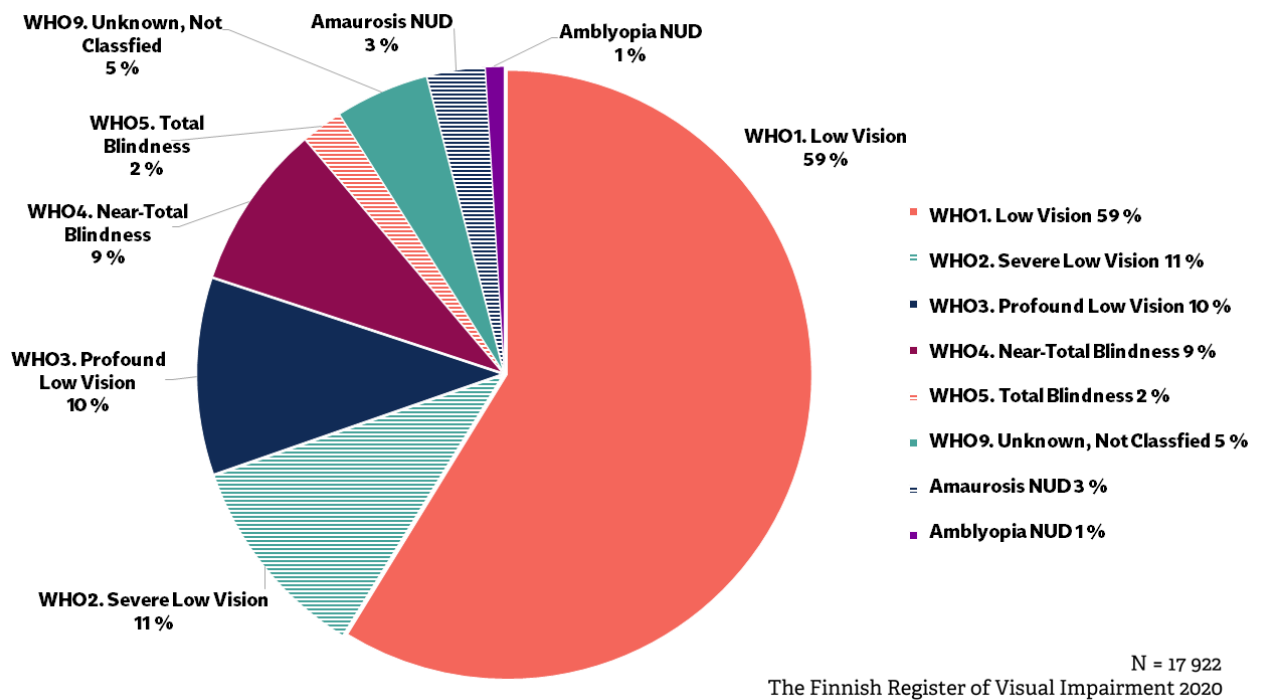


Table 7. Native Language

Registered visual impairment in Finland in 2020
(total and new registrations)

	Total %	New 2020 %
finnish	90.8	89.3
swedish	5.8	7.5
russian	0.6	0.7
sami	0.13	0.0
english	0.1	0.1
danish	0.04	0.0

other, unknown/not reported	2.6	2.3
Total	100.0	100.0
N	17 922	1 458

Table 8. Family Status in Age Groups

Registered visually impaired 15 – 64 years old persons % in Finland according to National Census in 2018%

	Age group					Total
	0 - 14 y	15 - 24 y	25-44 y	45-64 y	65 y+	
A	95.8	59.2	15.5	3.6	0.0	7.0
B	-	7.9	33.5	47.8	34.2	34.0
C	-	27.8	43.1	44.2	61.2	54.1
D	4.2	5.0	7.9	4.5	4.5	4.8
Total	100.0	100.0	100.0	100.0	100.0	100.0

A	Child in a family	Not belonging to families
B	Spouse, partner, mother/father	Unknown, institutionalised population

Table 9. Main Type on Activity

Registered visually impaired 15 - 64 year old persons in Finland according to National Census in 2018 compared with the whole population

Registered vis.impaired persons %	Whole popu- lation %
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Fully employed	24.8	}	72
Partially employed	15.6	}	
Unemployed	3.2	7	
Students	3.3	}	
Pensioners	50.0		
Other or unknown	1.9	}	21
Total	100.0		100.0
N (the registered visually impaired persons in this study)	4 747		

Figure 5. Level on Education

Registered visually impaired 15 - 64 year old persons in Finland according to National Census in 2018 compared with the whole population

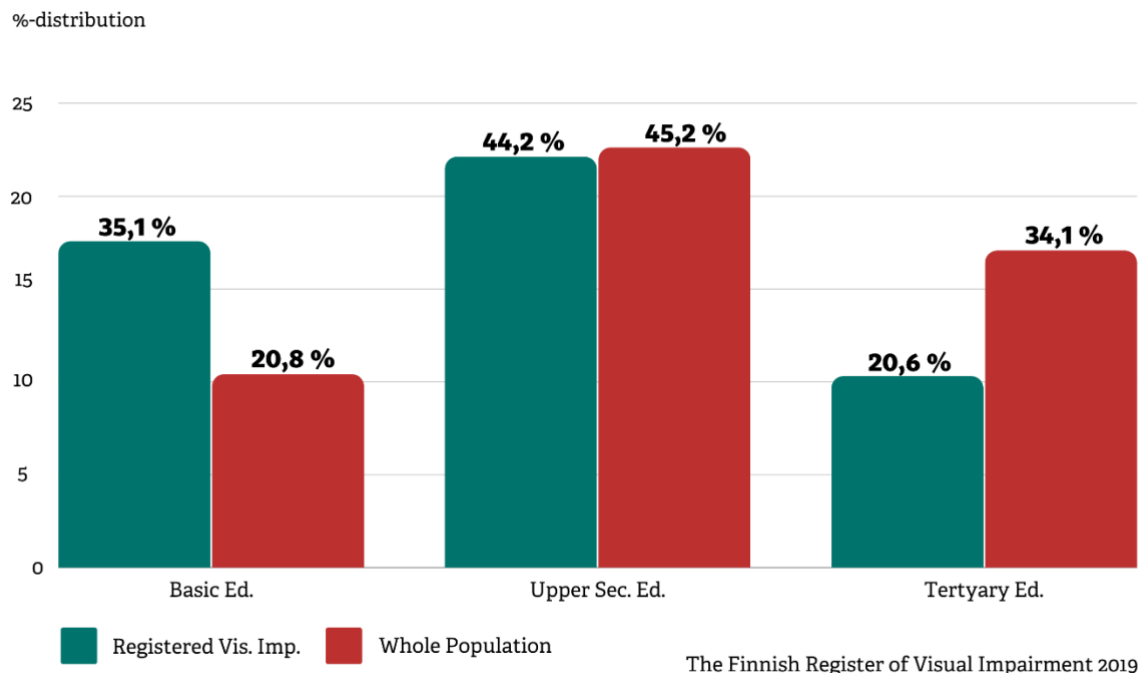


Table 10. Level of Education

Registered visually impaired 15 - 64 years old persons in Finland according to National Census in 2018 compared with the whole population

Level of education (1)	The duration of education	Regist.vis.imp. % 2018	Whole population % 2018
Basic education	up to 9 years	35.1	20.8
Upper secondary educ.	10 - 12 years	44.2	45.2
Tertiary education	13 years +	20.6	34.1
Total		100.0	100.0
N (the registered visually impaired persons in this study)		4 747	

(1) The Finnish Standard Classification of Education